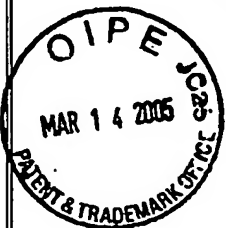




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<b>INFORMATION DISCLOSURE CITATION IN AN APPLICATION</b>   <b>(PTO-1449)</b>		<b>ATTY. DOCKET NO.</b> 008019 USA/ MTCG/PCTRL	<b>SERIAL NO.</b> 10/759,108
		<b>APPLICANT</b> Alexander T. SCHWARM	
		<b>FILING DATE</b> January 20, 2004	<b>GROUP</b> 2825 2125
<b>OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)</b>			
RJ	November 15, 2004. European Office Action for European Patent Application No. 02752701.9.		
RJ	December 14, 2004. U.S. Notice of Allowance for U.S. Patent Application No. 09/928,474.		
<b>EXAMINER</b>		<b>DATE CONSIDERED</b>	
/Ryan Jarrett/		05/19/2006	

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

(PTO-1449)

**SERIAL NO.**  
**10/759,108**


**FILING DATE**  
January 20, 2004

GROUP  
2825 2125

## U.S. PATENT DOCUMENTS

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 <p align="center"><b>INFORMATION DISCLOSURE CITATION IN AN APPLICATION</b></p> <p align="center">(PTO-1449)</p>		<b>ATTY. DOCKET NO.</b> 008019 USA/ MTCG/PCTRL	<b>SERIAL NO.</b> 10/759,108
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		<b>FILING DATE</b> January 20, 2004	<b>GROUP</b> 2825
<b>OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)</b>			
RJ	September 15, 2004. Office Action for U.S. Serial No. 10/632,107, filed August 1, 2003.		
RJ	September 29, 2004. Office Action for U.S. Serial No. 09/363,966, filed July 29, 1999.		
RJ	October 1, 2004. International Preliminary Examination Report for PCT Serial No. PCT/US03/23964.		
RJ	October 12, 2004. International Preliminary Examination Report for PCT Serial No. PCT/US02/19061.		
RJ	November 17, 2004. Written Opinion for PCT Serial No. PCT/US01/27407.		
<b>EXAMINER</b>	<b>DATE CONSIDERED</b>		
/Ryan Jarrett/	05/19/2006		

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**INFORMATION DISCLOSURE  
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APPLICANT  
Alexander T. SCHWARM

FILING DATE  
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GROUP  
2825 2125

**U.S. PATENT DOCUMENTS**

EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE
RJ	4,957,605	09/18/90	Hurwitt et al.			04/17/89
	5,240,552	08/31/93	Yu et al.			12/11/91
	5,369,544	11/29/94	Mastrangelo			04/05/93
	5,444,837	08/22/95	Bomans et al.			12/29/93
	5,665,214	09/09/97	Iturralde			05/03/95
	5,695,810	12/09/97	Dubin et al.			11/20/96
	5,824,599	10/20/98	Schacham-Diamond et al.			01/16/96
	5,825,356	10/20/98	Habib et al.			03/18/96
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	5,859,777	01/12/99	Yokoyama et al.			05/13/97
	5,871,805	02/16/99	Lemelson			04/08/96
	5,943,550	08/24/99	Fulford, Jr. et al.			03/29/96
	6,012,048	01/04/00	Gustin et al.			05/30/97
	6,037,664	03/14/00	Zhao et al.			03/31/98
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	6,226,563 B1	05/01/01	Lim			09/04/98
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	6,259,160 B1	07/10/01	Lopatin et al.			04/21/99
	6,281,127 B1	08/28/01	Shue			04/15/99
EXAMINER				DATE CONSIDERED		

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				APPLICANT Alexander T. SCHWARM			
				FILING DATE January 20, 2004		GROUP 2825	
<b>U.S. PATENT DOCUMENTS</b>							
EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE	
RJ	6,317,643 B1	11/13/01	Dmochowski			03/31/99	
↓	6,339,727 B1	01/15/02	Ladd			12/21/98	
	6,355,559 B1	03/12/02	Havemann et al.			11/03/00	
	6,391,780 B1	05/21/02	Shih et al.			08/23/99	
	6,417,014 B1	07/09/02	Lam et al.			10/19/99	
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	6,432,728 B1	08/13/02	Tai et al.			10/16/00	
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	6,515,368 B1	02/04/03	Lopatin et al.			12/07/01	
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	6,609,946 B1	08/26/03	Tran			07/14/00	
	6,616,513 B1	09/09/03	Osterheld			04/05/01	
	6,624,075 B1	09/23/03	Lopatin et al.			11/05/02	
	6,630,741 B1	10/07/03	Lopatin et al.			12/07/01	
	6,660,633 B1	12/09/03	Lopatin et al.			02/26/02	
	6,708,074 B1	03/16/04	Chi et al.			08/11/00	
↓	6,708,075 B2	03/16/04	Sonderman et al.			11/16/01	
	6,728,587 B2	04/27/04	Goldman et al.			12/27/00	
EXAMINER				DATE CONSIDERED			

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				FILING DATE January 20, 2004		GROUP 2825	
<b>FOREIGN PATENT DOCUMENTS</b>							
EXAMINER'S INITIALS	PATENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						Yes	No
RJ	EP 0 932 195 A1	07/28/99	EP			X	
RJ	EP 1 083 470 A2	03/14/01	EP			X	
RJ	GB 2 365 215 A	02/13/02	GB			X	
<b>OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)</b>							
RJ	Sun, S.C. 1998. "CVD and PVD Transition Metal Nitrides as Diffusion Barriers for Cu Metallization." <i>IEEE</i> . pp. 243-246.						
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	Peng, C.H., C.H. Hsieh, C.L. Huang, J.C. Lin, M.H. Tsai, M.W. Lin, C.L. Chang, Winston S. Shue, and M.S. Liang. 2002. "A 90nm Generation Copper Dual Damascene Technology with ALD TaN Barrier." <i>IEEE</i> . pp. 603-606.						
	Van der Straten, O., Y. Zhu, E. Eisenbraun, and A. Kaloyeros. 2002. "Thermal and Electrical Barrier Performance Testing of Ultrathin Atomic Layer Deposition Tantalum-Based Materials for Nanoscale Copper Metallization." <i>IEEE</i> . pp. 188-190.						
	Wu, Z.C., Y.C. Lu, C.C. Chiang, M.C. Chen, B.T. Chen, G.J. Wang, Y.T. Chen, J.L. Huang, S.M. Jang, and M.S. Liang. 2002. "Advanced Metal Barrier Free Cu Damascene Interconnects with PECVD Silicon Carbide Barriers for 90/65-nm BEOL Technology." <i>IEEE</i> . pp. 595-598.						
	July 25, 2003. International Search Report for PCT/US02/24858.						
	March 30, 2004. Written Opinion for PCT/US02/19062.						
	April 9, 2004. Written Opinion for PCT/US02/19116.						
	April 22, 2004. Office Action for U.S. Serial No. 09/998,372, filed November 30, 2001.						
EXAMINER				DATE CONSIDERED			

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INFORMATION DISCLOSURE  
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ATTY. DOCKET NO.  
008019 USA/MTCG/PCTRL

SERIAL NO.  
10/759,108

APPLICANT  
Alexander T. SCHWARM

FILING DATE  
January 20, 2004

GROUP  
2825 2125

## U.S. PATENT DOCUMENTS

EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE
RJ	3,205,485	09/07/65	Noltingk			10/21/60
	3,229,198	01/11/66	Libby			09/28/62
	3,767,900	10/23/73	Chao et al.			06/23/71
	3,920,965	11/18/75	Sohrwardy			03/04/74
	4,000,458	12/28/76	Miller et al.			08/21/75
	4,207,520	06/10/80	Flora et al.			04/06/78
	4,209,744	06/24/80	Gerasimov et al.			03/27/78
	4,302,721	11/24/81	Urbanek et al.			05/15/79
	4,368,510	01/11/83	Anderson			10/20/80
	4,609,870	09/02/86	Lale et al.			09/13/84
	4,616,308	10/07/86	Morshedi et al.			12/02/85
	4,663,703	05/05/87	Axelby et al.			10/02/85
	4,698,766	10/06/87	Entwistle et al.			05/17/85
	4,750,141	06/07/88	Judell et al.			11/26/85
	4,755,753	07/05/88	Chern			07/23/86
	4,757,259	07/12/88	Charpentier			11/05/86
	4,796,194	01/03/89	Atherton			08/20/86
	4,901,218	02/13/90	Cornwell			03/04/88
	4,938,600	07/03/90	Into			02/09/89
	4,967,381	10/30/90	Lane et al.			07/06/89
	5,089,970	02/18/92	Lee et al.			10/05/89
	5,108,570	04/28/92	Wang			03/30/90
	5,208,765	05/04/93	Turnbull			07/20/90
	5,220,517	06/15/93	Sierk et al.			08/31/90
	5,226,118	07/06/93	Baker et al.			01/29/91
	5,231,585	07/27/93	Kobayashi et al.			06/20/90
	5,236,868	08/17/93	Nulman			04/20/90
	5,260,868	11/09/93	Gupta et al.			10/15/91
EXAMINER			DATE CONSIDERED			

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Alexander T. SCHWARMFILING DATE  
January 20, 2004GROUP  
2825**U.S. PATENT DOCUMENTS**

EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE
	3,205,485	09/07/65	Noltingk			10/21/60
	3,229,198	01/11/66	Libby			09/28/62
	3,767,900	10/23/73	Chao et al.			06/23/71
	3,920,965	11/18/75	Sohrwardy			03/04/74
	4,000,458	12/28/76	Miller et al.			08/21/75
	4,207,520	06/10/80	Flora et al.			04/06/78
	4,209,744	06/24/80	Gerasimov et al.			03/27/78
	4,302,721	11/24/81	Urbanek et al.			05/15/79
	4,368,510	01/11/83	Anderson			10/20/80
	4,609,870	09/02/86	Lale et al.			09/13/84
	4,616,308	10/07/86	Morshedi et al.			12/02/85
	4,663,703	05/05/87	Axelby et al.			10/02/85
	4,698,766	10/06/87	Entwistle et al.			05/17/85
	4,750,141	06/07/88	Judell et al.			11/26/85
	4,755,753	07/05/88	Chern			07/23/86
	4,757,259	07/12/88	Charpentier			11/05/86
	4,796,194	01/03/89	Atherton			08/20/86
	4,901,218	02/13/90	Cornwell			03/04/88
	4,938,600	07/03/90	Into			02/09/89
	4,967,381	10/30/90	Lane et al.			07/06/89
	5,089,970	02/18/92	Lee et al.			10/05/89
	5,108,570	04/28/92	Wang			03/30/90
	5,208,765	05/04/93	Turnbull			07/20/90
	5,220,517	06/15/93	Sierk et al.			08/31/90
	5,226,118	07/06/93	Baker et al.			01/29/91
	5,231,585	07/27/93	Kobayashi et al.			06/20/90
	5,236,868	08/17/93	Nulman			04/20/90
	5,260,868	11/09/93	Gupta et al.			10/15/91
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				APPLICANT Alexander T. SCHWARM			
				FILING DATE January 20, 2004		GROUP 2825	
<b>U.S. PATENT DOCUMENTS</b>							
EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE	
RJ	5,270,222	12/14/93	Moslehi			12/31/90	
	5,283,141	02/01/94	Yoon et al.			03/05/92	
	5,295,242	03/15/94	Mashruwala et al.			11/02/90	
	5,309,221	05/03/94	Fischer et al.			12/31/91	
	5,329,463	07/12/94	Sierk et al.			01/13/93	
	5,338,630	08/16/94	Yoon et al.			11/18/93	
	5,347,446	09/13/94	Iino et al.			02/10/92	
	5,367,624	11/22/94	Cooper			06/11/93	
	5,375,064	12/20/94	Bollinger			12/02/93	
	5,398,336	03/14/95	Tantry et al.			06/16/93	
	5,402,367	03/28/95	Sullivan et al.			07/19/93	
	5,408,405	04/18/95	Mozumder et al.			09/20/93	
	5,410,473	04/25/95	Kaneko et al.			12/16/92	
	5,420,796	05/30/95	Weling et al.			12/23/93	
	5,427,878	06/27/95	Corliss			05/16/94	
	5,469,361	11/21/95	Moyne			06/06/94	
	5,485,082	01/16/96	Wisspeintner et al.			04/05/90	
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	5,497,316	03/05/96	Sierk et al.			04/04/95	
	5,497,381	03/05/96	O'Donoghue et al.			06/01/95	
	5,503,707	04/02/96	Maung et al.			09/22/93	
	5,508,947	04/16/96	Sierk et al.			05/13/94	
	5,511,005	04/23/96	Abbe et al.			02/16/94	
	5,519,605	05/21/96	Cawfield			10/24/94	
	5,525,808	06/11/96	Irie et al.			12/20/94	
	5,526,293	06/11/96	Mozumder et al.			12/17/93	
↓	5,534,289	07/09/96	Bilder et al.			01/03/95	
	5,541,510	07/30/96	Danielson			04/06/95	
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				FILING DATE January 20, 2004		GROUP 2825	
U.S. PATENT DOCUMENTS							
EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE	
RJ	5,546,312	08/13/96	Mozumder et al.			02/24/94	
↓	5,553,195	09/03/96	Meijer			09/29/94	
↓	5,586,039	12/17/96	Hirsch et al.			02/27/95	
↓	5,599,423	02/04/97	Parker et al.			06/30/95	
↓	5,602,492	02/11/97	Cresswell et al.			04/28/94	
↓	5,603,707	02/18/97	Trombetta et al.			11/28/95	
↓	5,617,023	04/01/97	Skalski			02/02/95	
↓	5,627,083	05/06/97	Tounai			05/12/95	
↓	5,629,216	05/13/97	Wijaranakula et al.			02/27/96	
↓	5,642,296	06/24/97	Saxena			07/29/93	
↓	5,646,870	07/08/97	Krivokapic et al.			02/13/95	
↓	5,649,169	07/15/97	Berezin et al.			06/20/95	
↓	5,654,903	08/05/97	Reitman et al.			11/07/95	
↓	5,655,951	08/12/97	Meikle et al.			09/29/95	
↓	5,657,254	08/12/97	Sierk et al.			04/15/96	
↓	5,661,669	08/26/97	Mozumder et al.			06/07/95	
↓	5,663,797	09/02/97	Sandhu			05/16/96	
↓	5,664,987	09/09/97	Renteln			09/04/96	
↓	5,665,199	09/09/97	Sahota et al.			06/23/95	
↓	5,666,297	09/09/97	Britt et al.			05/13/94	
↓	5,667,424	09/16/97	Pan			09/25/96	
↓	5,674,787	10/07/97	Zhao et al.			01/16/96	
↓	5,694,325	12/02/97	Fukuda et al.			11/22/95	
↓	5,698,989	12/16/97	Nulman			09/13/96	
↓	5,719,495	02/17/98	Moslehi			06/05/96	
↓	5,719,796	02/17/98	Chen			12/04/95	
↓	5,735,055	04/07/98	Hochbein et al.			04/23/96	
↓	5,740,429	04/14/98	Wang et al.			07/07/95	
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				APPLICANT Alexander T. SCHWARM			
				FILING DATE January 20, 2004		GROUP 2825	
<b>U.S. PATENT DOCUMENTS</b>							
EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE	
RJ	5,751,582	05/12/98	Saxena et al.			09/24/96	
	5,754,297	05/19/98	Nulman			04/14/97	
	5,761,064	06/02/98	La et al.			10/06/95	
	5,761,065	06/02/98	Kittler et al.			03/30/95	
	5,764,543	06/09/98	Kennedy			06/16/95	
	5,777,901	07/07/98	Berezin et al.			09/29/95	
	5,787,021	07/28/98	Samaha			12/18/95	
	5,787,269	07/28/98	Hyodo			09/19/95	
	5,808,303	09/15/98	Schlagheck et al.			01/29/97	
	5,812,407	09/22/98	Sato et al.			08/12/97	
	5,823,854	10/20/98	Chen			05/28/96	
	5,825,913	10/20/98	Rostami et al.			07/18/95	
	5,828,778	10/27/98	Hagi et al.			07/12/96	
	5,832,224	11/03/98	Fehskens et al.			06/14/96	
	5,838,595	11/17/98	Sullivan et al.			11/25/96	
	5,844,554	12/01/98	Geller et al.			09/17/96	
	5,857,258	01/12/99	Penzes et al.			05/12/94	
	5,859,964	01/12/99	Wang et al.			10/25/96	
	5,859,975	01/12/99	Brewer et al.			08/09/96	
	5,862,054	01/19/99	Li			02/20/97	
	5,863,807	01/26/99	Jang et al.			03/15/96	
	5,867,389	02/02/99	Hamada et al.			11/26/96	
	5,870,306	02/09/99	Harada			06/13/97	
	5,883,437	03/16/99	Maruyama et al.			12/28/95	
	5,889,991	03/30/99	Consolatti et al.			12/06/96	
	5,901,313	05/04/99	Wolfe et al.			09/02/97	
	5,903,455	05/11/99	Sharpe, Jr. et al.			12/12/96	
↓	5,910,011	06/08/99	Cruse			05/12/97	
	5,910,846	06/08/99	Sandhu			08/19/97	
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EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE	
RJ	5,912,678	06/15/99	Saxena et al.			04/14/97	
	5,916,016	06/29/99	Bothra			10/23/97	
	5,923,553	07/13/99	Yi			10/05/96	
	5,926,690	07/20/99	Toprac et al.			05/28/97	
	5,930,138	07/27/99	Lin et al.			09/10/97	
	5,940,300	08/17/99	Ozaki			05/08/97	
	5,943,237	08/24/99	Van Boxem			10/17/97	
	5,960,185	09/28/99	Nguyen			06/24/96	
	5,960,214	09/28/99	Sharpe, Jr. et al.			12/04/96	
	5,961,369	10/05/99	Bartels et al.			06/04/98	
	5,963,881	10/05/99	Kahn et al.			10/20/97	
	5,978,751	11/02/99	Pence et al.			02/25/97	
	5,982,920	11/09/99	Tobin, Jr. et al.			01/08/97	
	6,002,989	12/14/99	Shiba et al.			04/01/97	
	6,017,771	01/25/00	Yang et al.			04/27/98	
	6,036,349	03/14/00	Gombar			07/26/96	
	6,041,263	03/21/00	Boston et al.			10/01/97	
	6,041,270	03/21/00	Steffan et al.			12/05/97	
	6,054,379	04/25/00	Yau et al.			02/11/98	
	6,064,759	05/16/00	Buckley et al.			11/06/97	
	6,072,313	06/06/00	Li et al.			06/17/97	
	6,074,443	06/13/00	Venkatesh et al.			01/29/98	
	6,077,412	06/20/00	Ting et al.			10/30/98	
	6,078,845	06/20/00	Friedman			11/25/96	
	6,094,688	07/25/00	Mellen-Garnett et al.			03/12/98	
	6,097,887	08/01/00	Hardikar et al.			10/27/97	
	6,108,092	08/22/00	Sandhu			06/08/99	
↓	6,111,634	08/29/00	Pecen et al.			05/28/97	
	6,112,130	08/29/00	Fukuda et al.			10/01/97	
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EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE	
RJ	6,127,263	10/03/00	Parikh			07/10/98	
	6,128,016	10/03/00	Coelho et al.			12/20/96	
	6,136,163	10/24/00	Cheung et al.			03/05/99	
	6,141,660	10/31/00	Bach et al.			07/16/98	
	6,143,646	11/07/00	Wetzel			06/03/97	
	6,148,099	11/14/00	Lee et al.			07/03/97	
	6,148,239	11/14/00	Funk et al.			12/12/97	
	6,148,246	11/14/00	Kawazome			06/10/98	
	6,150,664	11/21/00	Su			06/29/99	
	6,159,075	12/12/00	Zhang			10/13/99	
	6,159,644	12/12/00	Satoh et al.			03/06/96	
	6,161,054 B1	12/12/00	Rosenthal et al.			09/17/98	
	6,169,931 B1	01/02/01	Runnels			07/29/98	
	6,172,756 B1	01/09/01	Chalmers et al.			12/11/98	
	6,173,240 B1	01/09/01	Sepulveda et al.			11/02/98	
	6,175,777 B1	01/16/01	Kim			01/16/98	
	6,178,390 B1	01/23/01	Jun			09/08/98	
	6,183,345 B1	02/06/01	Kamono et al.			03/20/98	
	6,185,324 B1	02/06/01	Ishihara et al.			01/31/95	
	6,191,864 B1	02/20/01	Sandhu			02/29/00	
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	6,197,604 B1	03/06/01	Miller et al.			10/01/98	
	6,204,165 B1	03/20/01	Ghoshal			06/24/99	
	6,210,983 B1	04/03/01	Atchison et al.			06/15/99	
	6,211,094 B1	04/03/01	Jun et al.			08/23/99	
6,214,734 B1	04/10/01	Bothra et al.			11/20/98		
6,217,412 B1	04/17/01	Campbell et al.			08/11/99		
6,219,711 B1	04/17/01	Chari			10/01/97		
6,222,936 B1	04/24/01	Phan et al.			09/13/99		
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RJ	6,226,792 B1	05/01/01	Goiffon et al.			10/14/98	
	6,230,069 B1	05/08/01	Campbell et al.			06/26/98	
	6,236,903 B1	05/22/01	Kim et al.			09/25/98	
	2001/0001755 A1	05/24/01	Sandhu et al.			12/29/00	
	6,240,330 B1	05/29/01	Kurtzberg et al.			05/28/97	
	6,240,331 B1	05/29/01	Yun			08/18/98	
	2001/0003084 A1	06/07/01	Finarov			12/04/00	
	6,245,581 B1	06/12/01	Bonser et al.			04/19/00	
	6,246,972 B1	06/12/01	Klimasauskas			05/27/99	
	6,248,602 B1	06/19/01	Bode et al.			11/01/99	
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	6,252,412 B1	06/26/01	Talbot et al.			01/08/99	
	6,253,366 B1	06/26/01	Mutschler, III			03/31/99	
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	6,278,899 B1	08/21/01	Piche et al.			10/06/98	
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	6,303,395 B1	10/16/01	Nulman			06/01/99	
	6,304,999 B1	10/16/01	Toprac et al.			10/23/00	
	2001/0030366 A1	10/18/01	Nakano et al.			03/07/01	
↓	6,307,628 B1	10/23/01	Lu et al.			08/18/00	
	6,314,379 B1	11/06/01	Hu et al.			12/04/97	
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RJ	2001/0039462 A1	11/08/01	Mendez et al.			04/02/01	
	2001/0040997 A1	11/15/01	Tsap et al.			05/15/01	
	6,320,655 B1	11/20/01	Matsushita et al.			03/15/00	
	2001/0042690 A1	11/22/01	Talieh			12/14/00	
	2001/0044667 A1	11/22/01	Nakano et al.			05/16/01	
	6,324,481 B1	11/27/01	Atchison et al.			06/15/99	
	6,334,807 B1	01/01/02	Lebel et al.			04/30/99	
	6,336,841 B1	01/08/02	Chang			03/29/01	
	6,340,602 B1	01/22/02	Johnson et al.			02/12/01	
	6,345,288 B1	02/05/02	Reed et al.			05/15/00	
	6,345,315 B1	02/05/02	Mishra			08/12/98	
	6,346,426 B1	02/12/02	Toprac et al.			11/17/00	
	2002/0032499	03/14/02	Wilson et al.			05/04/01	
	6,360,133 B1	03/19/02	Campbell et al.			06/17/99	
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	6,363,294 B1	03/26/02	Coronel et al.			12/29/98	
	6,366,934 B1	04/02/02	Cheng et al.			06/02/99	
	6,368,879 B1	04/09/02	Toprac			09/22/99	
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	6,379,980 B1	04/30/02	Toprac			07/26/00	
	6,388,253 B1	05/14/02	Su			11/02/00	
	6,389,491 B1	05/14/02	Jacobson et al.			03/23/99	
	2002/0058460 A1	05/16/02	Lee et al.			09/14/01	
	6,395,152 B1	05/28/02	Wang			07/02/99	
	6,397,114 B1	05/28/02	Eryurek et al.			05/03/99	
	6,400,162 B1	06/04/02	Mallory et al.			07/21/00	
↓	6,405,096 B1	06/11/02	Toprac et al.			08/10/99	
	6,405,144 B1	06/11/02	Toprac et al.			01/18/00	
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RJ	2002/0070126 A1	06/13/02	Sato et al.			09/19/01	
	2002/0077031 A1	06/20/02	Johannson et al.			07/06/01	
	2002/0081951 A1	06/27/02	Boyd et al.			02/20/02	
	2002/0089676 A1	07/11/02	Pecen et al.			04/26/00	
	2002/0102853 A1	08/01/02	Li et al.			12/20/01	
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	2002/0107604 A1	08/08/02	Riley et al.			12/06/00	
	6,435,952 B1	08/20/02	Boyd et al.			06/30/00	
	6,438,438 B1	08/20/02	Takagi et al.			01/02/98	
	2002/0113039 A1	08/22/02	Mok et al.			02/16/01	
	6,440,295 B1	08/27/02	Wang			02/04/00	
	6,442,496 B1	08/27/02	Pasadyn et al.			08/08/00	
	2002/0127950 A1	09/12/02	Hirose et al.			03/08/01	
	2002/0128805 A1	09/12/02	Goldman et al.			12/26/00	
	6,455,937 B1	09/24/02	Cunningham			03/17/99	
	2002/0149359 A1	10/17/02	Crouzen et al.			08/18/01	
	6,470,230 B1	10/22/02	Toprac et al.			01/04/00	
	6,479,902 B1	11/12/02	Lopatin et al.			06/29/00	
	6,479,990 B2	11/12/02	Mednikov et al.			06/18/01	
	6,482,660 B2	11/19/02	Conchieri et al.			03/19/01	
	6,486,492 B1	11/26/02	Su			11/20/00	
	6,492,281 B1	12/10/02	Song et al.			09/22/00	
	2002/0185658 A1	12/12/02	Inoue et al.			06/14/01	
	2002/0193902 A1	12/19/02	Shanmugasundram et al.			06/18/02	
	2002/0197745 A1	12/26/02	Shanmugasundram et al.			08/31/01	
	2002/0197934 A1	12/26/02	Paik			11/30/01	
	2002/0199082 A1	12/26/02	Shanmugasundram et al.			06/18/02	
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EXAMINER'S INITIALS	PATENT APP. NO.	FILING DATE	NAME	TITLE	CLASS	SUB- CLASS	
RJ	09/363,966	07/29/99	Arackaparambil et al.	Computer Integrated Manufacturing Techniques			
	09/469,227	12/22/99	Somekh et al.	Multi-Tool Control System, Method and Medium			
	09/619,044	07/19/00	Yuan	System and Method of Exporting or Importing Object Data in a Manufacturing Execution System			
	09/637,620	08/11/00	Chi et al.	Generic Interface Builder			
	09/656,031	09/06/00	Chi et al.	Dispatching Component for Associating Manufacturing Facility Service Requestors with Service Providers			
	09/655,542	09/06/00	Yuan	System, Method and Medium for Defining Palettes to Transform an Application Program Interface for a Service			
	09/725,908	11/30/00	Chi et al.	Dynamic Subject Information Generation in Message Services of Distributed Object Systems			
	09/800,980	03/08/01	Hawkins et al.	Dynamic and Extensible Task Guide			
	09/811,667	03/20/01	Yuan et al.	Fault Tolerant and Automated Computer Software Workflow			
	09/927,444	08/13/01	Ward et al.	Dynamic Control of Wafer Processing Paths in Semiconductor Manufacturing Processes			
	09/928,473	08/14/01	Koh	Tool Services Layer for Providing Tool Service Functions in Conjunction with Tool Functions			
	09/928,474	08/14/01	Krishnamurthy et al.	Experiment Management System, Method and Medium			
	09/943,383	08/31/01	Shanmugasundram et al.	In Situ Sensor Based Control of Semiconductor Processing Procedure			
	09/943,955	08/31/01	Shanmugasundram et al.	Feedback Control of a Chemical Mechanical Polishing Device Providing Manipulation of Removal Rate Profiles			
	09/998,372	11/30/01	Paik	Control of Chemical Mechanical Polishing Pad Conditioner Directional Velocity to Improve Pad Life			
✓	09/998,384	11/30/01	Paik	Feedforward and Feedback Control for Conditioning of Chemical Mechanical Polishing Pad			
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RJ	10/084,092	02/28/02	Arackaparambil et al.	Computer Integrated Manufacturing Techniques			
↓	10/100,184	03/19/02	Al-Bayati et al.	Method, System and Medium for Controlling Semiconductor Wafer Processes Using Critical Dimension Measurements			
	10/135,405	05/01/02	Reiss et al.	Integration of Fault Detection with Run-to-Run Control			
	10/135,451	05/01/02	Shanmugasundram et al.	Dynamic Metrology Schemes and Sampling Schemes for Advanced Process Control in Semiconductor Processing			
	10/172,977	06/18/02	Shanmugasundram et al.	Method, System and Medium for Process Control for the Matching of Tools, Chambers and/or Other Semiconductor-Related Entities			
	10/173,108	06/18/02	Shanmugasundram et al.	Integrating Tool, Module, and Fab Level Control			
	10/174,370	06/18/02	Shanmugasundram et al.	Feedback Control of Plasma-Enhanced Chemical Vapor Deposition Processes			
	10/174,377	06/18/02	Schwarm et al.	Feedback Control of Sub-Atmospheric Chemical Vapor Deposition Processes			
	10/377,654	03/04/03	Kokotov et al.	Method, System and Medium for Controlling Manufacturing Process Using Adaptive Models Based on Empirical Data			
	10/393,531	03/21/03	Shanmugasundram et al.	Copper Wiring Module Control			
	10/632,107	08/01/03	Schwarm et al.	Method, System, and Medium for Handling Misrepresentative Metrology Data Within an Advanced Process Control System			
	10/665,165	09/18/03	Paik	Feedback Control of a Chemical Mechanical Polishing Process for Multi-Layered Films			
↓	10/712,273	11/14/03	Kokotov	Method, System and Medium for Controlling Manufacture Process Having Multivariate Input Parameters			
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EXAMINER'S INITIALS	PATENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						Yes	No
RJ	61-66104	04/04/86	Japan			X	
	61-171147	08/01/86	Japan			X	
	01-283934	11/15/89	Japan			X	
	0 397 924 A1	11/22/90	Europe			X	
	2,050,247	08/29/91	Canada			X	
	2,165,847	08/29/91	Canada			X	
	2,194,855	08/29/91	Canada			X	
	3-202710	09/04/91	Japan			X	
	05-151231	06/18/93	Japan			X	
	05-216896	08/27/93	Japan			X	
	05-266029	10/15/93	Japan			X	
	06-110894	04/22/94	Japan			X	
	06-176994	06/24/94	Japan			X	
	06-184434	07/05/94	Japan			X	
	06-252236	09/09/94	Japan			X	
	06-260380	09/16/94	Japan			X	
	EP 0 621 522 A2	10/26/94	Europe			X	
	WO 95/34866	12/21/95	WO			X	
	8-23166	01/23/96	Japan			X	
	08-50161	02/20/96	Japan			X	
	08-149583	06/07/96	Japan			X	
	08-304023	11/22/96	Japan			X	
	EP 0 747 795 A2	12/11/96	Europe			X	
	09-34535	02/07/97	Japan			X	
	9-246547	09/19/97	Japan			X	
	WO 98/05066	02/05/98	WO			X	
↓	10-34522	02/10/98	Japan			X	
↓	10-173029	06/26/98	Japan			X	
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				APPLICANT Alexander T. SCHWARM			
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<b>FOREIGN PATENT DOCUMENTS</b>							
EXAMINER'S INITIALS	PATENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						Yes	No
RJ	EP 0 869 652 A2	10/07/98	Europe			X	
	WO 98/45090	10/15/98	WO			X	
	EP 0 877 308 A2	11/11/98	Europe			X	
	EP 0 881 040 A2	12/02/98	Europe			X	
	EP 0 895 145 A1	02/03/99	Europe			X	
	WO 99/09371	02/25/99	WO			X	
	11-67853	03/09/99	Japan			X	
	EP 0 910 123 A1	04/21/99	Europe			X	
	11-126816	05/11/99	Japan			X	
	11-135601	05/21/99	Japan			X	
	WO 99/25520	05/27/99	WO			X	
	EP 0 932 194 A1	07/28/99	Europe			X	
	WO 99/59200	11/18/99	WO			X	
	WO 00/00874	01/06/00	WO			X	
	WO 00/05759	02/03/00	WO			X	
	WO 00/35063	06/15/00	WO			X	
	2000-183001	06/30/00	Japan			X	
	WO 00/54325	09/14/00	WO			X	
	GB 2 347 885 A	09/20/00	United Kingdom			X	
	WO 00/79355 A1	12/28/00	WO			X	
	EP 1 066 925 A2	01/10/01	Europe			X	
	EP 1 067 757 A1	01/10/01	Europe			X	
	EP 1 071 128 A2	01/24/01	Europe			X	
	WO 01/11679 A1	02/15/01	WO			X	
	WO 01/15865 A1	03/08/01	WO			X	
	WO 01/18623 A1	03/15/01	WO			X	
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RJ	2001-76982	03/23/01	Japan			X	
	WO 01/25865 A1	04/12/01	WO			X	
	EP 1 092 505 A2	04/18/01	Europe			X	
	WO 01/33277 A1	05/10/01	WO			X	
	WO 01/33501 A1	05/10/01	WO			X	
	434103	05/16/01	Taiwan			X	
	436383B	05/28/01	Taiwan			X	
	WO 01/52055 A3	07/19/01	WO			X	
	WO 01/52319 A1	07/19/01	WO			X	
	WO 01/57823 A2	08/09/01	WO			X	
	455938B	09/21/01	Taiwan			X	
	455976	09/21/01	Taiwan			X	
	2001-284299	10/12/01	Japan			X	
	WO 01/80306 A2	10/25/01	WO			X	
	2001-305108	10/31/01	Japan			X	
	EP 1 072 967 A3	11/21/01	Europe			X	
	2002-9030	01/11/02	Japan			X	
	EP 1 182 526 A2	02/27/02	Europe			X	
	WO 02/17150 A1	02/28/02	WO			X	
	WO 02/31613 A2	04/18/02	WO			X	
	WO 02/31613 A3	04/18/02	WO			X	
	WO 02/33737 A2	04/25/02	WO			X	
↓	WO 02/074491 A1	09/26/02	WO			X	
	2002-343754	11/29/02	Japan			X	
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<b>OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)</b>			
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RJ	Scarr, J. M. and J. K. Zelisse. April 1993. "New Topology for Thickness Monitoring Eddy Current Sensors (Abstract)." <i>Proceedings of the 36<sup>th</sup> Annual Technical Conference</i> , Dallas, Texas.		
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RJ	Telfeyan, Roland, James Moyne, Nauman Chaudhry, James Pugmire, Scott Shellman, Duane Boning, William Moyne, Arnon Hurwitz, and John Taylor. October 1995. "A Multi-Level Approach to the Control of a Chemical-Mechanical Planarization Process." Minneapolis, Minnesota: 42 <sup>nd</sup> National Symposium of the American Vacuum Society.		
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RJ	Guo, Ruey-Shan, Li-Shia Huang, Argon Chen, and Jin-Jung Chen. October 1997. "A Cost-Effective Methodology for a Run-by-Run EWMA Controller." <i>6<sup>th</sup> International Symposium on Semiconductor Manufacturing</i> , pp. 61-64.		
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<b>OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)</b>			
RJ	Ouma, Dennis, Duane Boning, James Chung, Greg Shinn, Leif Olsen, and John Clark. 1998. "An Integrated Characterization and Modeling Methodology for CMP Dielectric Planarization." <i>Proceedings of the IEEE 1998 International Interconnect Technology Conference</i> , pp. 67-69.		
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